

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Use-as-is <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____	Suspected Unapproved <input type="checkbox"/>			Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>		
				Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>		
				Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
Bending	Bend	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>
Centre Not Concentric	BOM/Route	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>
Cracks	Broken/Damage/Defect	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>
Crimp/Kink/Ripple/Wave	Burrs	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>
Cuffs	Contamination	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>
Crushing	Countersink	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>
Heat Treat	Cut Too Short	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>
Inspection Strip in Tube	Drawing	<input type="checkbox"/>	Other	<input type="checkbox"/>
Marks/Chatter	Drill Holes	<input type="checkbox"/>		
Turning Sequence	Finish	<input type="checkbox"/>		
Wave/Twist in Tube	Fit/Function	<input type="checkbox"/>		

Work Order ID 124178

September-11-14 11:57:25 AM

124178

Page 2

Item ID: D3417-7

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Washer

Stop

NS2

Start Date: 9/10/14

Start Qty: 20.00

20

Cust Item ID:

Required Date: 9/10/14

Req'd Qty: 20.00

20

Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

Identify as per dwg & Stock Location: ST038

0.00

130

Packaging

Packaging

Z4

MLJ 14-10-10

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Quality Control

Memo

0.00

14/10/14

MLJ 14-10-10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____	Use-as-is <input type="checkbox"/>	Suspected Unapproved <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>		
	Thermoforming <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Supplier <input type="checkbox"/>	Other <input type="checkbox"/>		

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced
Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up
Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure
Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld
Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled
Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong	
Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other
Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread		
Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set		
Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration		
Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence		

Picklist Print

September-11-14 11:57:25 AM

Page 1

Work Order ID: 124178

124178

Parent Item: D3417-7

D3417-7

Parent Item Name: Washer

Start Date: 9/10/14

Required Date: 9/10/14

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MDELRINR1.2500		Purchased		No		100	f	19.0950	0.0296	1			DAS

MDFI RINR1 2500

DELRIN ROUND BAR 1.25" color: black

**

14/10/10
40
9.89

Location	Loc Qty	Loc Code
MAT018	19.095	
→ m128113	19.095	1.1

DQA: _____ Date: _____

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Date:

Work Order update only



Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS									
Suspected Unapproved				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>							
Root Cause		Date	Step	Qty	Description of work order update or non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector				
Design	<input type="checkbox"/>														
Doc/Data	<input type="checkbox"/>														
Equip/Tooling	<input type="checkbox"/>														
Handling/Pre	<input type="checkbox"/>														
Material	<input type="checkbox"/>														
Operator	<input type="checkbox"/>														
Offset/Setup	<input type="checkbox"/>														
Process	<input type="checkbox"/>														
Supplier	<input type="checkbox"/>														
Training	<input type="checkbox"/>														
Transport	<input type="checkbox"/>														
Unapproved	<input type="checkbox"/>														
FAULT CATEGORY															
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function				<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence				<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

DART AEROSPACE LTD	Work Order:	129178
Description: WASHER	Part Number:	D3417-7
Inspection Dwg: D3417 Rev: F		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

DAS

40

DAS

Measured by:	40 9-89	Audited by:	37 9-89	Preliminary Approval:	
Date:	<u>14/10/10</u>	Date:	<u>14.10.10.</u>	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

 Rework
 Scrap
 Use-as-is
 Suspected Unapproved

AGAINST DEPARTMENT/PROCESS

 Skid-tube
 Machining
 Thermoforming
 Large Fab

 Crosstube
 Small Fab
 Finishing
 Composite

 Water Jet
 Prod. Eng. Coor.
 Rec/Store/Packaging
 Supplier

 Engineering
 Quality
 Other

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong	<input type="checkbox"/> Other
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge	
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread		
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set		
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration		
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence		

8

7

6

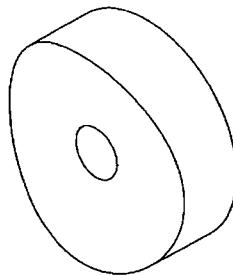
5

4

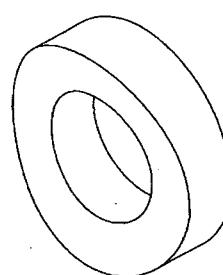
3

2

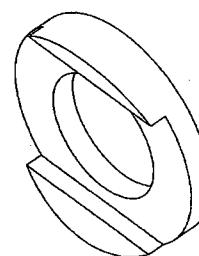
1



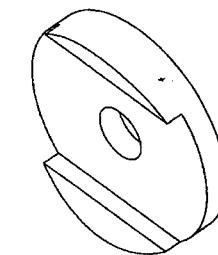
D3417-1 WASHER



D3417-3 WASHER



D3417-5 WASHER



D3417-7 WASHER

D

D

C

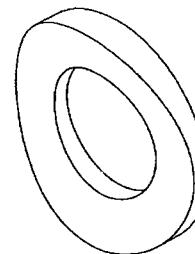
C

B

B

NOTES:

- 1) MATERIAL: BLACK DELRIN II 150E OR ACETRON GP ACETAL, ROD
REF DART SPEC M-DELRIN-R
OR BLACK DELRIN II 150E OR ACETRON GP ACETAL, BAR
REF DART SPEC M-DELRIN-B
OR BLACK DELRIN II 150E OR ACETRON GP ACETAL, SHEET
REF DART SPEC M-DELRIN-S
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D3417-1, 0.020 lbs
D3417-3, 0.010 lbs
D3417-5, 0.010 lbs
D3417-7, 0.010 lbs
D3417-9, 0.004 lbs



D3417-9 WASHER

F

8

7

6

5

4

3

2

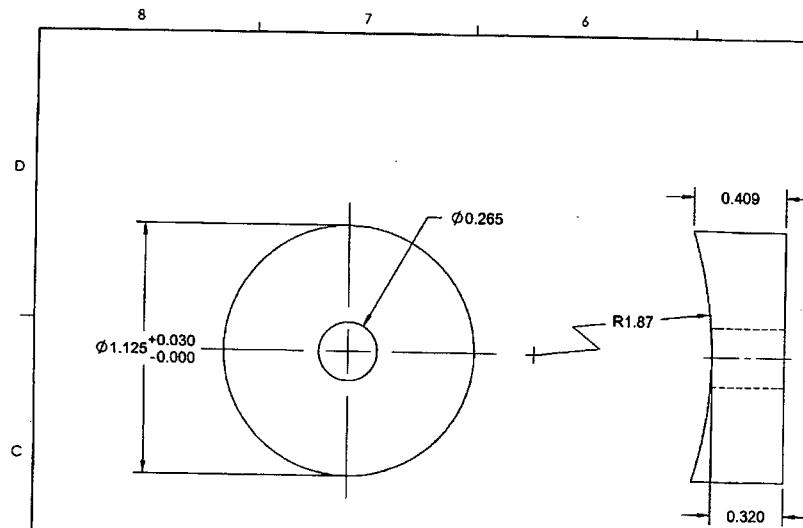
1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 124178 ML5
140912

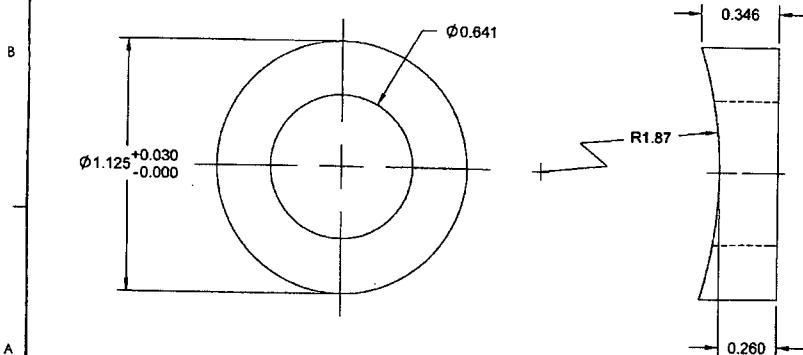
RELEASED
2010-09-15
140912

F	ADD D3417-9 (ZN B5-3)	SC	10.07.26
E	ADD D3417-7 (ZN A2-2)	RF	09.06.30
D	ADD -5 WASHER (ZN B2-1, B2-2); REFORMAT TO "B" SIZE & UPDATE TO CURRENT STANDARDS; REASON: INSTALLATION OF NEW TOW RING	AJS	08.07.08
C	REMOVE CBORE, WIDEN	PH	05.06.30
B	CHANGE TO ROUND WASHER	PH	05.09.10
A	NEW ISSUE	PH	05.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	
MFG. APPR.		D3417	REV. F
APPROVED		TITLE	SHEET 1 OF 3
DE APPR.		WASHER	SCALE
DATE	10.07.26		NTS

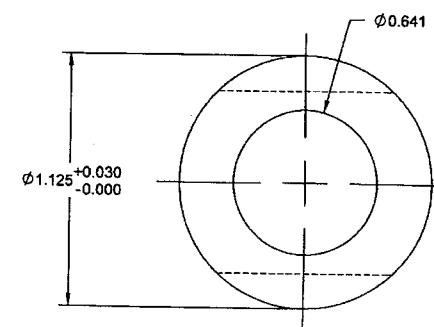
COPYRIGHT © 2006 BY DART AEROSPACE LTD
THIS DOCUMENT IS PROPRIETARY MATERIAL AND IS PROVIDED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR SHOWN TO OTHERS UNLESS APPROVED IN WRITING BY DART AEROSPACE LTD.



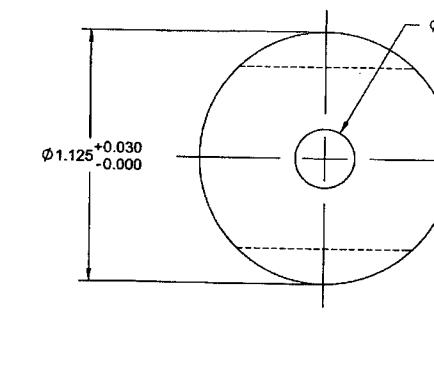
D3417-1 WASHER



D3417-3 WASHER



D3417-5 WASHER



D3417-7 WASHER

RELEASED
2010-09-15
AM

DESIGN	SC	DART AEROSPACE LTD
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>R</i>	DRAWING NO.
MFG. APPR.		REV. F
APPROVED		SHEET 2 OF 3
DE APPR.		TITLE
DATE	10.07.26	SCALE
		NTS

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

8 7 6 5 4 3 2 1

D

D

C

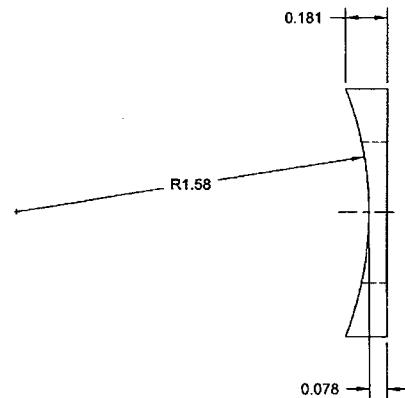
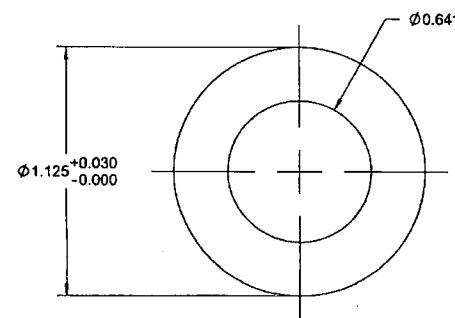
C

B

B

A

A



D3417-9 WASHER

A

RELEASED
2010-09-15
M

DESIGN	SC	DART AEROSPACE LTD
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>h</i>	DRAWING NO. REV. F
MFG. APPR.	<i>h</i>	D3417 SHEET 3 OF 3
APPROVED	<i>h</i>	TITLE SCALE
DE APPR.	<i>h</i>	WASHER NTS
DATE	10.07.26	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT DIRECT PERMISSION FROM DART AEROSPACE LTD.

8 7 6 5 4 3 2 1